

## 802.11ax-HE40 26dB Bandwidth &amp; 99% Bandwidth – CDD Mode

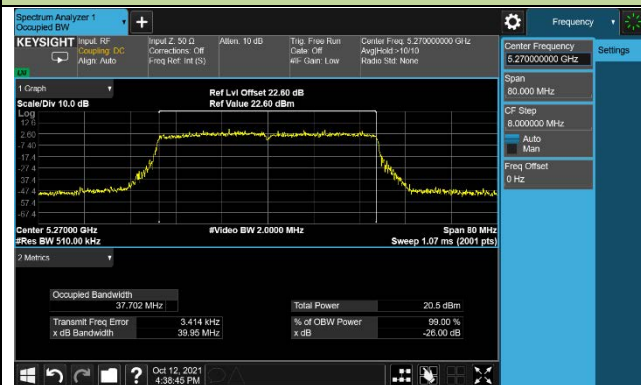
## Channel 38 (5190MHz)



## Channel 46 (5230MHz)



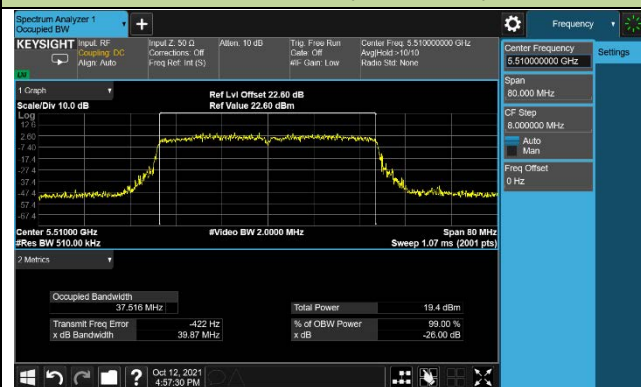
## Channel 54 (5270MHz)



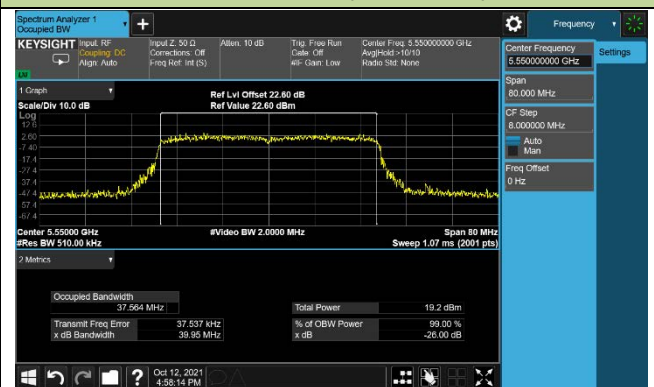
## Channel 62 (5310MHz)



## Channel 102 (5510MHz)

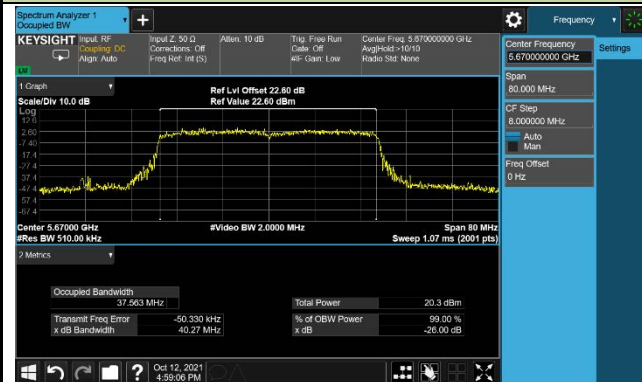


## Channel 110 (5550MHz)

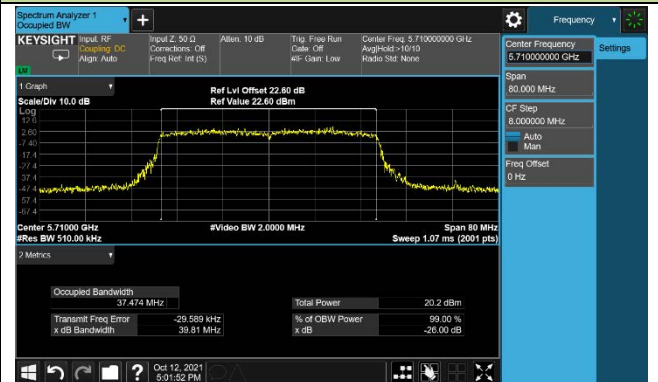


## 802.11ax-HE40 26dB Bandwidth &amp; 99% Bandwidth – CDD Mode

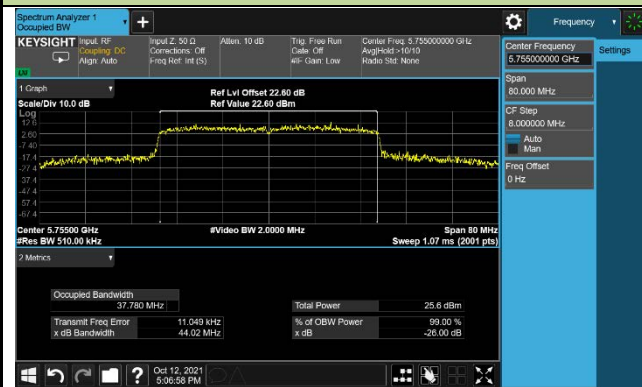
## Channel 134 (5670MHz)



## Channel 142 (5710MHz)



## Channel 151 (5755MHz)

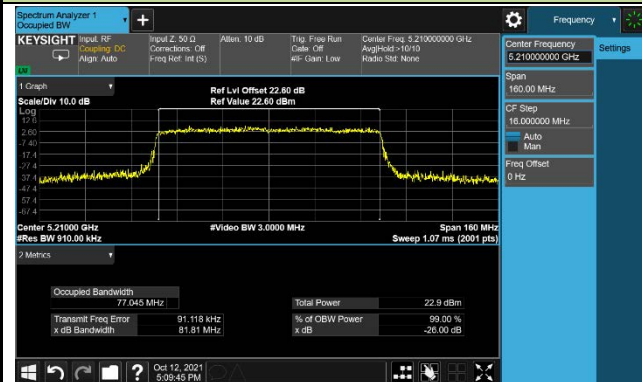


## Channel 159 (5795MHz)

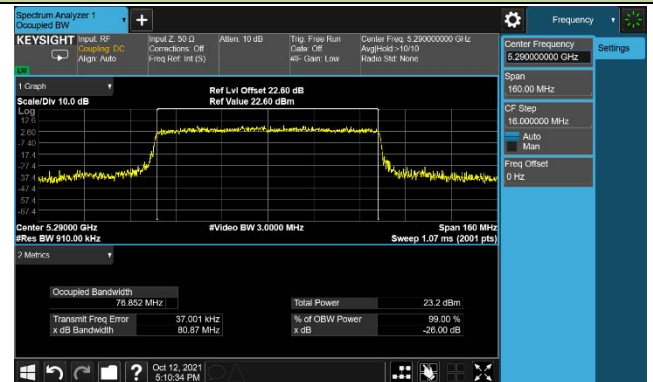


## 802.11ax-HE80 26dB Bandwidth &amp; 99% Bandwidth – CDD Mode

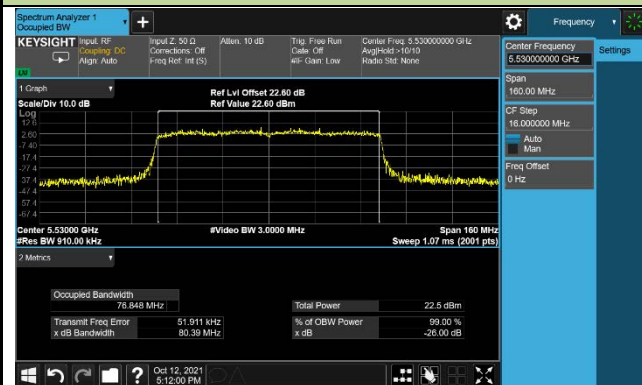
## Channel 42 (5210MHz)



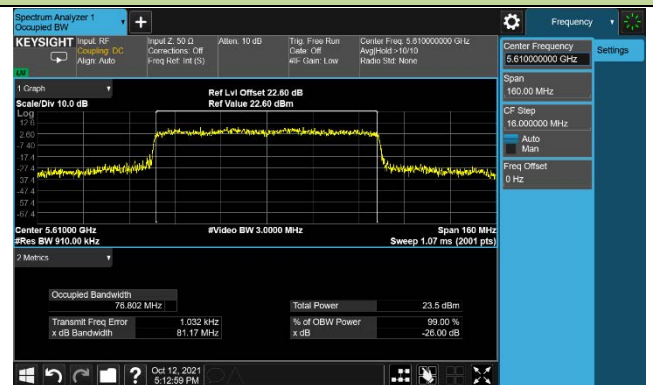
## Channel 58 (5290MHz)



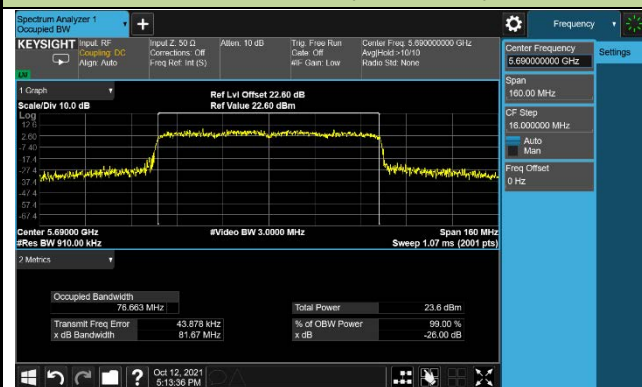
## Channel 106 (5530MHz)



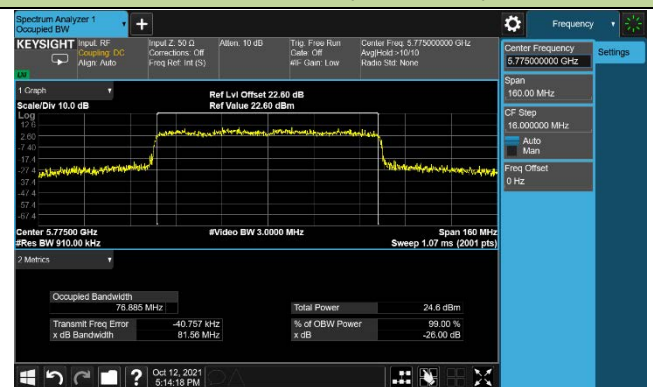
## Channel 122 (5610MHz)



## Channel 138 (5690MHz)

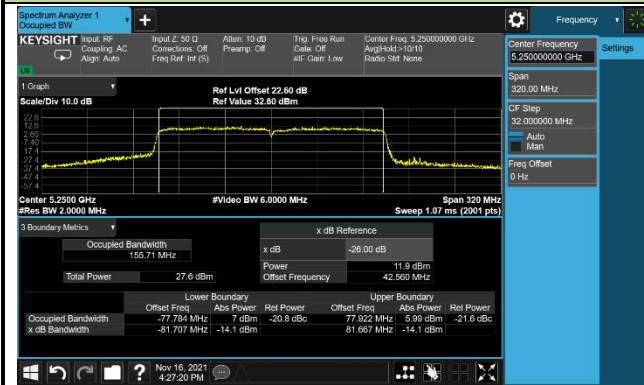


## Channel 155 (5775MHz)



## 802.11ax-HE80+80 26dB Bandwidth &amp; 99% Bandwidth – CDD Mode

## Channel 42+58 (5210+5290MHz)



## Channel 106+122 (5530+5610MHz)



## 802.11a 26dB Bandwidth &amp; 99% Bandwidth – Scan Mode

## Channel 36 (5180MHz)



## Channel 44 (5220MHz)



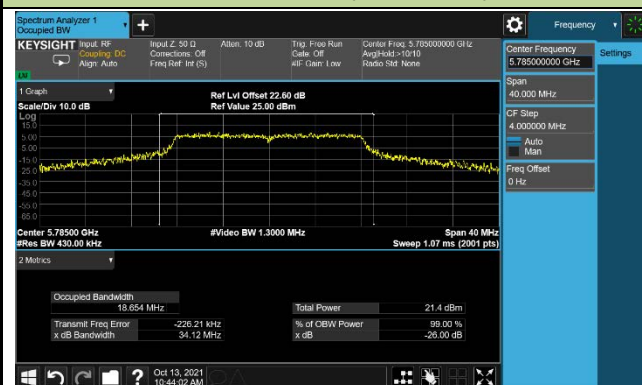
## Channel 48 (5240MHz)



## Channel 149 (5745MHz)



## Channel 157 (5785MHz)



## Channel 165 (5825MHz)



## 802.11ac-VHT20 26dB Bandwidth &amp; 99% Bandwidth – Scan Mode

## Channel 36 (5180MHz)



## Channel 44 (5220MHz)



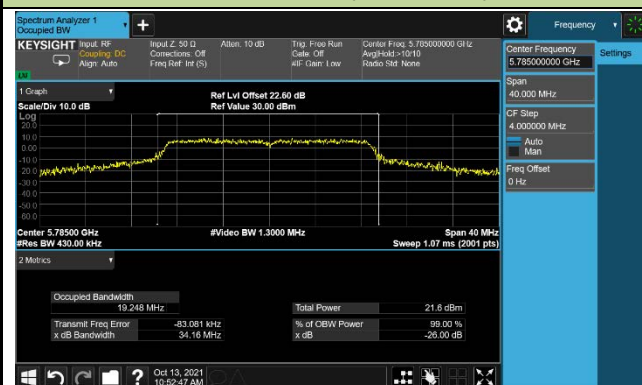
## Channel 48 (5240MHz)



## Channel 149 (5745MHz)



## Channel 157 (5785MHz)



## Channel 165 (5825MHz)



## 802.11ac-VHT40 26dB Bandwidth &amp; 99% Bandwidth – Scan Mode

## Channel 38 (5190MHz)



## Channel 46 (5230MHz)



## Channel 151 (5755MHz)



## Channel 159 (5795MHz)



## 802.11ac-VHT80 26dB Bandwidth &amp; 99% Bandwidth – Scan Mode

## Channel 42 (5210MHz)



## Channel 155 (5775MHz)



### 7.3. 6dB Bandwidth Measurement

#### 7.3.1.Test Limit

The minimum 6dB bandwidth shall be at least 500 kHz.

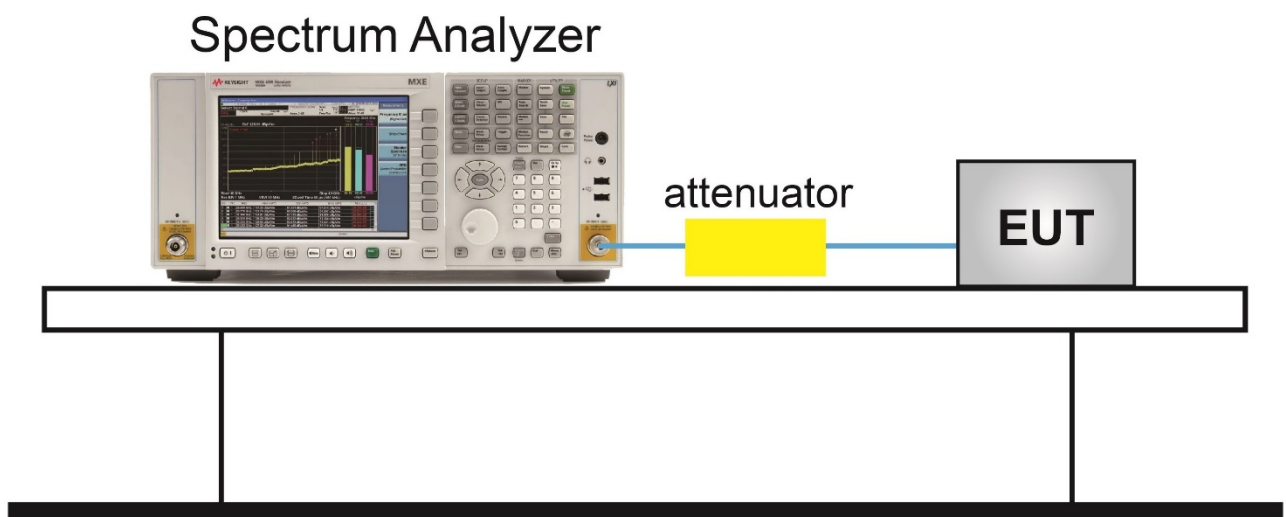
#### 7.3.2.Test Procedure used

KDB 789033 D02v02r01- Section C.2

#### 7.3.3.Test Setting

1. Set center frequency to the nominal EUT channel center frequency.
2. RBW = 100 kHz.
3. VBW  $\geq 3 \times$  RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. Sweep = auto couple.
7. Allow the trace to stabilize.
8. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

#### 7.3.4.Test Setup



### 7.3.5.Test Result

|               |                  |                   |                       |
|---------------|------------------|-------------------|-----------------------|
| Product       | HAN Access Point | Temperature       | 24~26°C               |
| Test Engineer | Eric Lin         | Relative Humidity | 56~61%                |
| Test Site     | SR2              | Test Date         | 2021/10/12~2021/10/13 |
| Test Mode     | CDD Mode         | Frequency Band    | U-NII-3               |

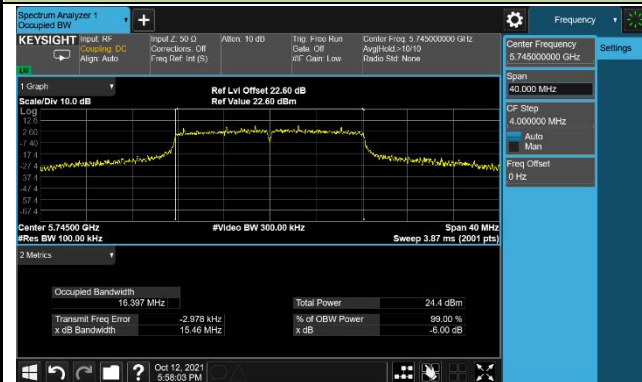
| Test Mode      | Data Rate/<br>MCS | Channel<br>No. | Frequency<br>(MHz) | 6dB Bandwidth<br>(MHz) | Limit<br>(MHz) | Result |
|----------------|-------------------|----------------|--------------------|------------------------|----------------|--------|
| 802.11a        | 6Mbps             | 149            | 5745               | 15.46                  | ≥ 0.5          | Pass   |
| 802.11a        | 6Mbps             | 157            | 5785               | 16.40                  | ≥ 0.5          | Pass   |
| 802.11a        | 6Mbps             | 165            | 5825               | 14.80                  | ≥ 0.5          | Pass   |
| 802.11ac-VHT20 | MCS0              | 149            | 5745               | 16.69                  | ≥ 0.5          | Pass   |
| 802.11ac-VHT20 | MCS0              | 157            | 5785               | 17.53                  | ≥ 0.5          | Pass   |
| 802.11ac-VHT20 | MCS0              | 165            | 5825               | 17.66                  | ≥ 0.5          | Pass   |
| 802.11ac-VHT40 | MCS0              | 151            | 5755               | 36.38                  | ≥ 0.5          | Pass   |
| 802.11ac-VHT40 | MCS0              | 159            | 5795               | 36.34                  | ≥ 0.5          | Pass   |
| 802.11ac-VHT80 | MCS0              | 155            | 5775               | 73.56                  | ≥ 0.5          | Pass   |
| 802.11ax-HE20  | MCS0              | 149            | 5745               | 19.00                  | ≥ 0.5          | Pass   |
| 802.11ax-HE20  | MCS0              | 157            | 5785               | 19.11                  | ≥ 0.5          | Pass   |
| 802.11ax-HE20  | MCS0              | 165            | 5825               | 19.12                  | ≥ 0.5          | Pass   |
| 802.11ax-HE40  | MCS0              | 151            | 5755               | 37.57                  | ≥ 0.5          | Pass   |
| 802.11ax-HE40  | MCS0              | 159            | 5795               | 38.03                  | ≥ 0.5          | Pass   |
| 802.11ax-HE80  | MCS0              | 155            | 5775               | 77.14                  | ≥ 0.5          | Pass   |

|               |                  |                   |            |
|---------------|------------------|-------------------|------------|
| Product       | HAN Access Point | Temperature       | 24~26°C    |
| Test Engineer | Eric Lin         | Relative Humidity | 56~61%     |
| Test Site     | SR2              | Test Date         | 2021/10/13 |
| Test Mode     | Scan Mode        | Frequency Band    | U-NII-3    |

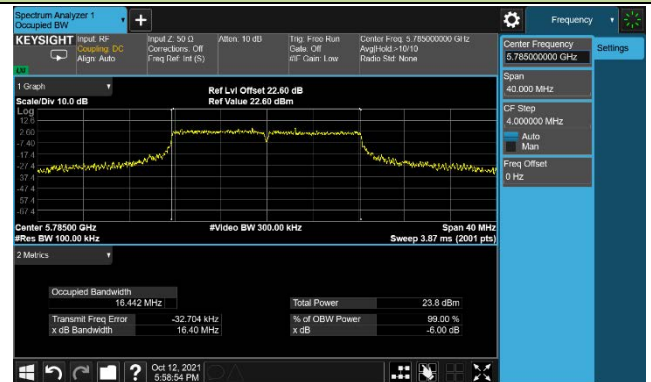
| Test Mode      | Data Rate/<br>MCS | Channel<br>No. | Frequency<br>(MHz) | 6dB Bandwidth<br>(MHz) | Limit<br>(MHz) | Result |
|----------------|-------------------|----------------|--------------------|------------------------|----------------|--------|
| 802.11a        | 6Mbps             | 149            | 5745               | 16.36                  | ≥ 0.5          | Pass   |
| 802.11a        | 6Mbps             | 157            | 5785               | 16.33                  | ≥ 0.5          | Pass   |
| 802.11a        | 6Mbps             | 165            | 5825               | 16.40                  | ≥ 0.5          | Pass   |
| 802.11ac-VHT20 | MCS0              | 149            | 5745               | 17.33                  | ≥ 0.5          | Pass   |
| 802.11ac-VHT20 | MCS0              | 157            | 5785               | 17.25                  | ≥ 0.5          | Pass   |
| 802.11ac-VHT20 | MCS0              | 165            | 5825               | 17.33                  | ≥ 0.5          | Pass   |
| 802.11ac-VHT40 | MCS0              | 151            | 5755               | 35.04                  | ≥ 0.5          | Pass   |
| 802.11ac-VHT40 | MCS0              | 159            | 5795               | 36.32                  | ≥ 0.5          | Pass   |
| 802.11ac-VHT80 | MCS0              | 155            | 5775               | 75.53                  | ≥ 0.5          | Pass   |

## 802.11a 6dB Bandwidth – CDD Mode

## Channel 149 (5745MHz)



## Channel 157 (5785MHz)



## Channel 165 (5825MHz)

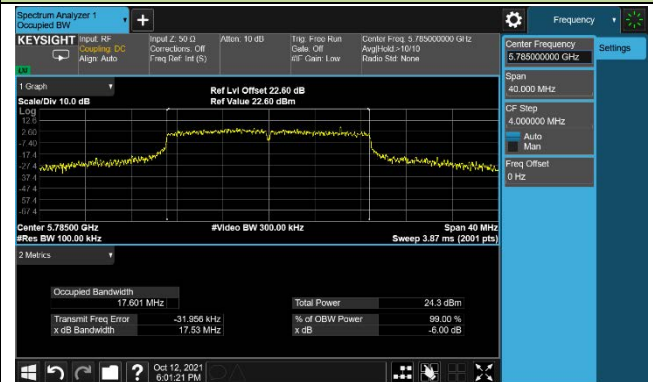


## 802.11ac-VHT20 6dB Bandwidth – CDD Mode

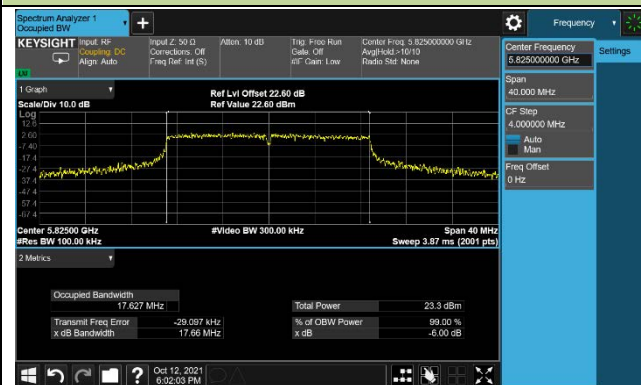
## Channel 149 (5745MHz)



## Channel 157 (5785MHz)



## Channel 165 (5825MHz)



## 802.11ac-VHT40 6dB Bandwidth – CDD Mode

## Channel 151 (5755MHz)



## Channel 159 (5795MHz)



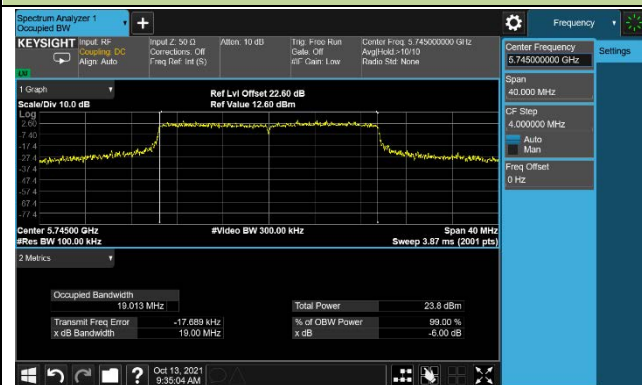
## 802.11ac-VHT80 6dB Bandwidth – CDD Mode

## Channel 155 (5775MHz)

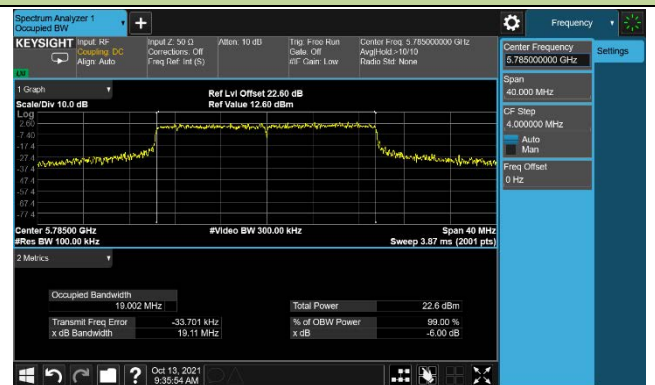


## 802.11ax-HE20 6dB Bandwidth – CDD Mode

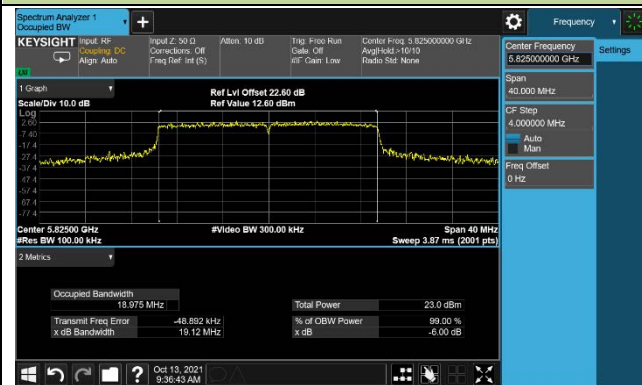
## Channel 149 (5745MHz)



## Channel 157 (5785MHz)



## Channel 165 (5825MHz)



## 802.11ax-HE40 6dB Bandwidth – CDD Mode

## Channel 151 (5755MHz)

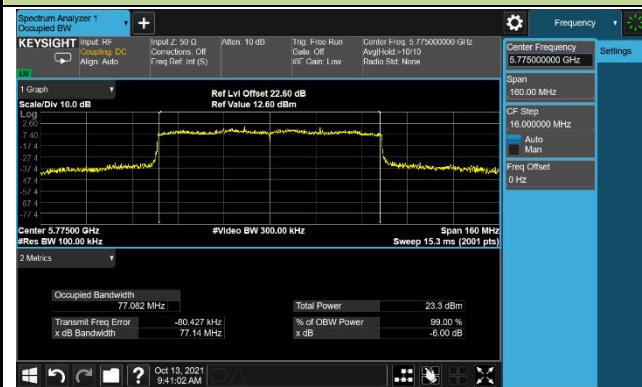


## Channel 159 (5795MHz)



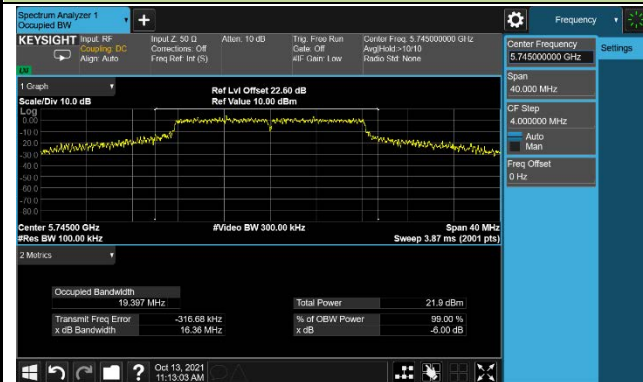
## 802.11ax-HE80 6dB Bandwidth– CDD Mode

## Channel 155 (5775MHz)



## 802.11a 6dB Bandwidth – Scan Mode

## Channel 149 (5745MHz)



## Channel 157 (5785MHz)

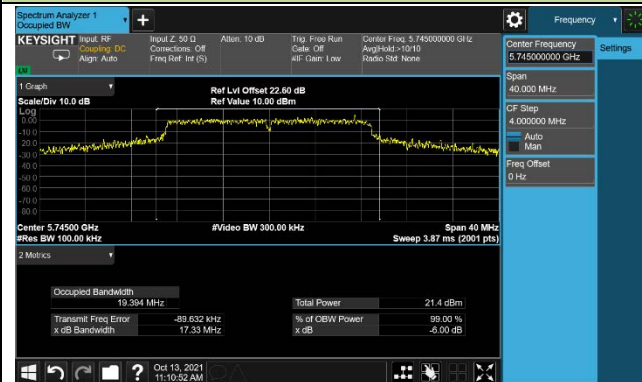


## Channel 165 (5825MHz)



## 802.11ac-VHT20 6dB Bandwidth – Scan Mode

## Channel 149 (5745MHz)



## Channel 157 (5785MHz)



## Channel 165 (5825MHz)



## 802.11ac-VHT40 6dB Bandwidth – Scan Mode

## Channel 151 (5755MHz)



## Channel 159 (5795MHz)



## 802.11ac-VHT80 6dB Bandwidth – Scan Mode

## Channel 155 (5775MHz)



## 7.4. Output Power Measurement

### 7.4.1.Test Limit

For the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi.

For an indoor access point operating in the band 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW (23.98dBm) or 11dBm +10 log (26dB BW).

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm).

If transmitting antennas of directional gain greater than 6dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

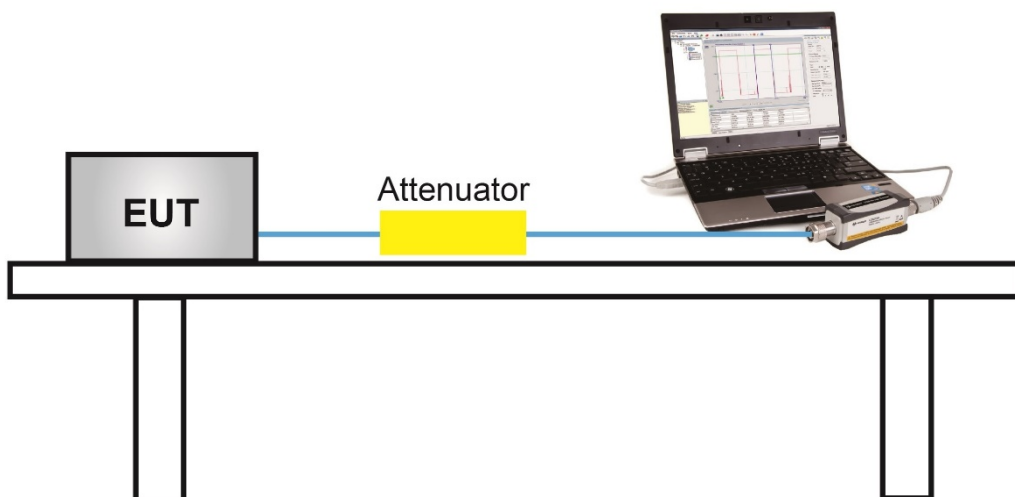
### 7.4.2.Test Procedure Used

KDB 789033D02v02r01- Section E)3)b) Method PM-G

### 7.4.3.Test Setting

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter.

### 7.4.4.Test Setup



#### 7.4.5.Test Result

Power output test was verified over all data rates of each mode shown as below table, and then choose the maximum power output (grey marker) for final test of each channel.

For Ant 0 port

| Test Mode | Bandwidth | Channel | Frequency (MHz) | Data Rate/ MCS | Average Power (dBm) |
|-----------|-----------|---------|-----------------|----------------|---------------------|
| 802.11a   | 20        | 36      | 5180            | 6Mbps          | 16.83               |
|           |           |         |                 | 24Mbps         | 16.65               |
|           |           |         |                 | 54Mbps         | 16.51               |
| 802.11ac  | 20        | 36      | 5180            | MCS0           | 16.75               |
|           |           |         |                 | MCS4           | 16.62               |
|           |           |         |                 | MCS8           | 16.48               |
| 802.11ac  | 40        | 38      | 5190            | MCS0           | 17.21               |
|           |           |         |                 | MCS4           | 17.05               |
|           |           |         |                 | MCS9           | 16.88               |
| 802.11ac  | 80        | 42      | 5210            | MCS0           | 15.90               |
|           |           |         |                 | MCS4           | 15.77               |
|           |           |         |                 | MCS9           | 15.62               |
| 802.11ax  | 20        | 36      | 5180            | MCS0           | 18.21               |
|           |           |         |                 | MCS5           | 18.04               |
|           |           |         |                 | MCS11          | 17.92               |
| 802.11ax  | 40        | 38      | 5190            | MCS0           | 17.33               |
|           |           |         |                 | MCS5           | 17.20               |
|           |           |         |                 | MCS11          | 17.05               |
| 802.11ax  | 80        | 42      | 5210            | MCS0           | 16.11               |
|           |           |         |                 | MCS5           | 16.02               |
|           |           |         |                 | MCS11          | 15.91               |

|               |                  |                   |                       |
|---------------|------------------|-------------------|-----------------------|
| Product       | HAN Access Point | Temperature       | 23 ~ 25°C             |
| Test Engineer | Eric Lin         | Relative Humidity | 46 ~ 56%              |
| Test Site     | SR2              | Test Date         | 2021/09/11~2021/10/12 |
| Test Mode     | CDD Mode         |                   |                       |

| Test Mode  | Data Rate/<br>MCS | Channel<br>No. | Freq.<br>(MHz) | Average Power (dBm) |       |       |       | Total<br>Average<br>Power<br>(dBm) | Average<br>Power<br>Limit<br>(dBm) | Result |
|------------|-------------------|----------------|----------------|---------------------|-------|-------|-------|------------------------------------|------------------------------------|--------|
|            |                   |                |                | Ant 0               | Ant 1 | Ant 2 | Ant 3 |                                    |                                    |        |
| 11a        | 6Mbps             | 36             | 5180           | 16.83               | 17.03 | 16.12 | 16.65 | 22.69                              | ≤ 30.00                            | Pass   |
| 11a        | 6Mbps             | 44             | 5220           | 16.63               | 16.90 | 15.97 | 16.27 | 22.48                              | ≤ 30.00                            | Pass   |
| 11a        | 6Mbps             | 48             | 5240           | 16.49               | 16.77 | 16.08 | 16.86 | 22.58                              | ≤ 30.00                            | Pass   |
| 11a        | 6Mbps             | 52             | 5260           | 10.98               | 11.33 | 11.26 | 11.14 | 17.20                              | ≤ 23.98                            | Pass   |
| 11a        | 6Mbps             | 60             | 5300           | 10.84               | 11.37 | 11.21 | 11.06 | 17.14                              | ≤ 23.98                            | Pass   |
| 11a        | 6Mbps             | 64             | 5320           | 10.67               | 10.56 | 11.01 | 10.75 | 16.77                              | ≤ 23.98                            | Pass   |
| 11a        | 6Mbps             | 100            | 5500           | 11.08               | 11.16 | 10.70 | 10.98 | 17.00                              | ≤ 23.98                            | Pass   |
| 11a        | 6Mbps             | 116            | 5580           | 10.92               | 11.09 | 10.78 | 10.54 | 16.86                              | ≤ 23.98                            | Pass   |
| 11a        | 6Mbps             | 140            | 5700           | 10.72               | 10.89 | 10.38 | 10.51 | 16.65                              | ≤ 23.98                            | Pass   |
| 11a        | 6Mbps             | 144            | 5720           | 11.05               | 10.67 | 10.57 | 10.18 | 16.65                              | ≤ 23.98                            | Pass   |
| 11a        | 6Mbps             | 149            | 5745           | 19.09               | 19.03 | 18.33 | 18.57 | 24.79                              | ≤ 30.00                            | Pass   |
| 11a        | 6Mbps             | 157            | 5785           | 18.67               | 18.90 | 17.98 | 18.23 | 24.48                              | ≤ 30.00                            | Pass   |
| 11a        | 6Mbps             | 165            | 5825           | 18.72               | 18.87 | 18.21 | 18.18 | 24.53                              | ≤ 30.00                            | Pass   |
| 11ac-VHT20 | MCS0              | 36             | 5180           | 16.75               | 17.24 | 16.31 | 17.02 | 22.86                              | ≤ 30.00                            | Pass   |
| 11ac-VHT20 | MCS0              | 40             | 5220           | 17.25               | 17.63 | 16.53 | 17.15 | 23.18                              | ≤ 30.00                            | Pass   |
| 11ac-VHT20 | MCS0              | 48             | 5240           | 16.95               | 17.10 | 16.27 | 16.96 | 22.85                              | ≤ 30.00                            | Pass   |
| 11ac-VHT20 | MCS0              | 52             | 5260           | 10.67               | 11.39 | 11.42 | 10.89 | 17.12                              | ≤ 23.98                            | Pass   |
| 11ac-VHT20 | MCS0              | 60             | 5300           | 10.60               | 11.03 | 11.58 | 11.15 | 17.12                              | ≤ 23.98                            | Pass   |
| 11ac-VHT20 | MCS0              | 64             | 5320           | 11.10               | 11.69 | 11.58 | 11.49 | 17.49                              | ≤ 23.98                            | Pass   |
| 11ac-VHT20 | MCS0              | 100            | 5500           | 11.58               | 11.70 | 11.05 | 11.37 | 17.45                              | ≤ 23.98                            | Pass   |
| 11ac-VHT20 | MCS0              | 116            | 5580           | 11.58               | 11.39 | 11.54 | 10.82 | 17.36                              | ≤ 23.98                            | Pass   |
| 11ac-VHT20 | MCS0              | 140            | 5700           | 11.39               | 11.21 | 11.30 | 11.16 | 17.29                              | ≤ 23.98                            | Pass   |
| 11ac-VHT20 | MCS0              | 144            | 5720           | 11.34               | 10.98 | 11.07 | 10.89 | 17.09                              | ≤ 23.98                            | Pass   |
| 11ac-VHT20 | MCS0              | 149            | 5745           | 18.62               | 18.91 | 18.17 | 18.44 | 24.56                              | ≤ 30.00                            | Pass   |
| 11ac-VHT20 | MCS0              | 157            | 5785           | 18.96               | 18.77 | 18.11 | 18.27 | 24.56                              | ≤ 30.00                            | Pass   |
| 11ac-VHT20 | MCS0              | 165            | 5825           | 18.53               | 18.12 | 17.79 | 17.76 | 24.08                              | ≤ 30.00                            | Pass   |

| Test Mode     | Data Rate/<br>MCS | Channel<br>No. | Freq.<br>(MHz) | Average Power (dBm) |       |       |       | Total<br>Average<br>Power<br>(dBm) | Average<br>Power<br>Limit<br>(dBm) | Result |
|---------------|-------------------|----------------|----------------|---------------------|-------|-------|-------|------------------------------------|------------------------------------|--------|
|               |                   |                |                | Ant 0               | Ant 1 | Ant 2 | Ant 3 |                                    |                                    |        |
| 11ac-VHT40    | MCS0              | 38             | 5190           | 17.21               | 17.45 | 16.35 | 16.93 | 23.02                              | ≤ 30.00                            | Pass   |
| 11ac-VHT40    | MCS0              | 46             | 5230           | 19.81               | 20.23 | 19.11 | 19.74 | 25.76                              | ≤ 30.00                            | Pass   |
| 11ac-VHT40    | MCS0              | 54             | 5270           | 14.06               | 14.10 | 13.73 | 13.90 | 19.97                              | ≤ 23.98                            | Pass   |
| 11ac-VHT40    | MCS0              | 62             | 5310           | 13.85               | 13.98 | 13.71 | 14.21 | 19.96                              | ≤ 23.98                            | Pass   |
| 11ac-VHT40    | MCS0              | 102            | 5510           | 14.74               | 15.33 | 14.34 | 14.84 | 20.85                              | ≤ 23.98                            | Pass   |
| 11ac-VHT40    | MCS0              | 110            | 5550           | 14.71               | 15.36 | 14.30 | 14.86 | 20.84                              | ≤ 23.98                            | Pass   |
| 11ac-VHT40    | MCS0              | 134            | 5670           | 13.96               | 14.11 | 13.78 | 13.01 | 19.76                              | ≤ 23.98                            | Pass   |
| 11ac-VHT40    | MCS0              | 142            | 5710           | 13.86               | 13.96 | 13.57 | 13.11 | 19.66                              | ≤ 23.98                            | Pass   |
| 11ac-VHT40    | MCS0              | 151            | 5755           | 18.13               | 18.27 | 17.38 | 17.41 | 23.84                              | ≤ 30.00                            | Pass   |
| 11ac-VHT40    | MCS0              | 159            | 5795           | 18.14               | 18.36 | 17.31 | 17.78 | 23.94                              | ≤ 30.00                            | Pass   |
| 11ac-VHT80    | MCS0              | 42             | 5210           | 15.90               | 16.11 | 15.14 | 15.50 | 21.70                              | ≤ 30.00                            | Pass   |
| 11ac-VHT80    | MCS0              | 58             | 5290           | 16.26               | 16.86 | 16.33 | 16.55 | 22.53                              | ≤ 23.98                            | Pass   |
| 11ac-VHT80    | MCS0              | 106            | 5530           | 15.66               | 16.10 | 15.20 | 15.83 | 21.73                              | ≤ 23.98                            | Pass   |
| 11ac-VHT80    | MCS0              | 122            | 5610           | 16.51               | 17.14 | 16.58 | 16.41 | 22.69                              | ≤ 23.98                            | Pass   |
| 11ac-VHT80    | MCS0              | 138            | 5690           | 16.75               | 16.71 | 16.07 | 15.82 | 22.38                              | ≤ 23.98                            | Pass   |
| 11ac-VHT80    | MCS0              | 155            | 5775           | 17.88               | 17.75 | 17.19 | 17.01 | 23.49                              | ≤ 30.00                            | Pass   |
| 11ac-VHT80+80 | MCS0              | 42             | 5210           | 16.41               | 16.87 | --    | --    | 19.66                              | ≤ 30.00                            | Pass   |
|               |                   | 58             | 5290           | --                  | --    | 16.27 | 16.57 | 19.43                              | ≤ 23.98                            | Pass   |
| 11ac-VHT80+80 | MCS0              | 106            | 5530           | 16.57               | 17.25 | --    | --    | 22.70                              | ≤ 23.98                            | Pass   |
|               |                   | 122            | 5610           | --                  | --    | 16.18 | 16.63 |                                    |                                    |        |

| Test Mode | Data Rate/<br>MCS | Channel<br>No. | Freq.<br>(MHz) | Average Power (dBm) |       |       |       | Total<br>Average<br>Power<br>(dBm) | Average<br>Power<br>Limit<br>(dBm) | Result |
|-----------|-------------------|----------------|----------------|---------------------|-------|-------|-------|------------------------------------|------------------------------------|--------|
|           |                   |                |                | Ant 0               | Ant 1 | Ant 2 | Ant 3 |                                    |                                    |        |
| 11ax-HE20 | MCS0              | 36             | 5180           | 18.21               | 18.73 | 17.64 | 18.24 | 24.24                              | ≤ 30.00                            | Pass   |
| 11ax-HE20 | MCS0              | 40             | 5220           | 22.57               | 22.25 | 21.91 | 22.14 | 28.24                              | ≤ 30.00                            | Pass   |
| 11ax-HE20 | MCS0              | 48             | 5240           | 22.38               | 22.32 | 21.89 | 22.35 | 28.26                              | ≤ 30.00                            | Pass   |
| 11ax-HE20 | MCS0              | 52             | 5260           | 11.73               | 11.77 | 12.03 | 11.75 | 17.84                              | ≤ 23.98                            | Pass   |
| 11ax-HE20 | MCS0              | 60             | 5300           | 11.08               | 11.14 | 11.88 | 11.41 | 17.41                              | ≤ 23.98                            | Pass   |
| 11ax-HE20 | MCS0              | 64             | 5320           | 11.36               | 11.45 | 11.91 | 11.63 | 17.61                              | ≤ 23.98                            | Pass   |
| 11ax-HE20 | MCS0              | 100            | 5500           | 11.85               | 12.03 | 11.38 | 11.53 | 17.73                              | ≤ 23.98                            | Pass   |
| 11ax-HE20 | MCS0              | 116            | 5580           | 11.36               | 11.64 | 11.17 | 11.38 | 17.41                              | ≤ 23.98                            | Pass   |
| 11ax-HE20 | MCS0              | 140            | 5700           | 11.18               | 11.07 | 11.08 | 10.81 | 17.06                              | ≤ 23.98                            | Pass   |
| 11ax-HE20 | MCS0              | 144            | 5720           | 11.12               | 10.81 | 10.78 | 10.66 | 16.87                              | ≤ 23.98                            | Pass   |
| 11ax-HE20 | MCS0              | 149            | 5745           | 18.67               | 18.42 | 18.08 | 18.32 | 24.40                              | ≤ 30.00                            | Pass   |
| 11ax-HE20 | MCS0              | 157            | 5785           | 18.13               | 18.23 | 17.88 | 18.06 | 24.10                              | ≤ 30.00                            | Pass   |
| 11ax-HE20 | MCS0              | 165            | 5825           | 18.27               | 18.41 | 17.72 | 17.80 | 24.08                              | ≤ 30.00                            | Pass   |
| 11ax-HE40 | MCS0              | 38             | 5190           | 17.33               | 17.51 | 16.44 | 17.01 | 23.11                              | ≤ 30.00                            | Pass   |
| 11ax-HE40 | MCS0              | 46             | 5230           | 20.04               | 20.31 | 19.65 | 20.14 | 26.06                              | ≤ 30.00                            | Pass   |
| 11ax-HE40 | MCS0              | 54             | 5270           | 13.68               | 13.88 | 13.63 | 13.74 | 19.75                              | ≤ 23.98                            | Pass   |
| 11ax-HE40 | MCS0              | 62             | 5310           | 13.52               | 13.79 | 13.72 | 14.04 | 19.79                              | ≤ 23.98                            | Pass   |
| 11ax-HE40 | MCS0              | 102            | 5510           | 13.53               | 14.06 | 13.14 | 13.67 | 19.63                              | ≤ 23.98                            | Pass   |
| 11ax-HE40 | MCS0              | 110            | 5550           | 13.47               | 13.97 | 13.11 | 13.74 | 19.60                              | ≤ 23.98                            | Pass   |
| 11ax-HE40 | MCS0              | 134            | 5670           | 14.07               | 13.89 | 14.22 | 13.16 | 19.87                              | ≤ 23.98                            | Pass   |
| 11ax-HE40 | MCS0              | 142            | 5710           | 13.88               | 13.82 | 13.18 | 13.04 | 19.52                              | ≤ 23.98                            | Pass   |
| 11ax-HE40 | MCS0              | 151            | 5755           | 18.66               | 18.71 | 18.11 | 18.16 | 24.44                              | ≤ 30.00                            | Pass   |
| 11ax-HE40 | MCS0              | 159            | 5795           | 18.66               | 18.55 | 18.11 | 18.17 | 24.40                              | ≤ 30.00                            | Pass   |
| 11ax-HE80 | MCS0              | 42             | 5210           | 16.11               | 16.37 | 15.39 | 15.92 | 21.98                              | ≤ 30.00                            | Pass   |
| 11ax-HE80 | MCS0              | 58             | 5290           | 16.56               | 17.11 | 16.59 | 16.84 | 22.80                              | ≤ 23.98                            | Pass   |
| 11ax-HE80 | MCS0              | 106            | 5530           | 15.89               | 16.31 | 15.41 | 16.12 | 21.97                              | ≤ 23.98                            | Pass   |
| 11ax-HE80 | MCS0              | 122            | 5610           | 17.25               | 17.92 | 17.36 | 17.28 | 23.48                              | ≤ 23.98                            | Pass   |
| 11ax-HE80 | MCS0              | 138            | 5690           | 17.06               | 17.29 | 16.75 | 16.32 | 22.89                              | ≤ 23.98                            | Pass   |
| 11ax-HE80 | MCS0              | 155            | 5775           | 17.99               | 17.91 | 17.32 | 17.02 | 23.60                              | ≤ 30.00                            | Pass   |

| Test Mode    | Data Rate/<br>MCS | Channel<br>No. | Freq.<br>(MHz) | Average Power (dBm) |       |       |       | Total<br>Average<br>Power<br>(dBm) | Average<br>Power<br>Limit<br>(dBm) | Result |
|--------------|-------------------|----------------|----------------|---------------------|-------|-------|-------|------------------------------------|------------------------------------|--------|
|              |                   |                |                | Ant 0               | Ant 1 | Ant 2 | Ant 3 |                                    |                                    |        |
| 11ax-HE80+80 | MCS0              | 42             | 5210           | 15.67               | 16.03 | --    | --    | 18.86                              | ≤ 30.00                            | Pass   |
|              |                   | 58             | 5290           | --                  | --    | 15.17 | 15.38 | 18.29                              | ≤ 23.98                            | Pass   |
| 11ax-HE80+80 | MCS0              | 106            | 5530           | 16.05               | 16.92 | --    | --    | 22.35                              | ≤ 23.98                            | Pass   |
|              |                   | 122            | 5610           | --                  | --    | 16.00 | 16.30 |                                    |                                    | Pass   |

Note 1: The Total Average Power (dBm) =  $10 \cdot \log \{10^{(\text{Ant 0 Average Power} / 10)} + 10^{(\text{Ant 1 Average Power} / 10)} + 10^{(\text{Ant 2 Average Power} / 10)} + 10^{(\text{Ant 3 Average Power} / 10)}\}$ .

Note 2: For 5250-5350MHz & 5470-5725MHz, the conducted power limit is as below.

802.11a:  $11 + 10 \log_{10} (19.89) = 23.99 > 23.98$  dBm

802.11ac-VHT20:  $11 + 10 \log_{10} (20.63) = 24.14 > 23.98$  dBm

802.11ax-HE20:  $11 + 10 \log_{10} (21.24) = 24.27 > 23.98$  dBm

802.11ac-VHT40/ax-HE40/ac-VHT80/ax-HE80:  $11 + 10 \log_{10} B > 23.98$ dBm

Note 3: For straddle channel, the conducted power limit is as below.

802.11a CH144:  $11 + 10 \log_{10} (B) = 23.77$ dBm,  $B = 18.92/2 + 5 = 14.46$ MHz.

802.11ac-VHT20 CH144:  $11 + 10 \log_{10} (B) = 24.18$ dBm,  $B = 20.81/2 + 5 = 15.405$ MHz.

802.11ax-HE20 CH144:  $11 + 10 \log_{10} (B) = 24.21$ dBm,  $B = 20.94/2 + 5 = 15.47$ MHz.

802.11ac-VHT40/ax-HE40/ac-VHT80/ax-HE80:  $11 + 10 \log_{10} B > 23.98$ dBm;

|               |                  |                   |                       |
|---------------|------------------|-------------------|-----------------------|
| Product       | HAN Access Point | Temperature       | 23 ~ 25°C             |
| Test Engineer | Eric Lin         | Relative Humidity | 46 ~ 56%              |
| Test Site     | SR2              | Test Date         | 2021/09/11~2021/10/12 |
| Test Mode     | Scan Mode        |                   |                       |

| Test Mode  | Data Rate/<br>MCS | Channel No. | Freq.<br>(MHz) | Average Power<br>(dBm) | Average<br>Power Limit<br>(dBm) | Result |
|------------|-------------------|-------------|----------------|------------------------|---------------------------------|--------|
| 11a        | 6Mbps             | 36          | 5180           | 16.41                  | ≤ 30.00                         | Pass   |
| 11a        | 6Mbps             | 44          | 5220           | 18.89                  | ≤ 30.00                         | Pass   |
| 11a        | 6Mbps             | 48          | 5240           | 18.84                  | ≤ 30.00                         | Pass   |
| 11a        | 6Mbps             | 149         | 5745           | 17.05                  | ≤ 30.00                         | Pass   |
| 11a        | 6Mbps             | 157         | 5785           | 16.47                  | ≤ 30.00                         | Pass   |
| 11a        | 6Mbps             | 165         | 5825           | 16.68                  | ≤ 30.00                         | Pass   |
| 11ac-VHT20 | MCS0              | 36          | 5180           | 16.40                  | ≤ 30.00                         | Pass   |
| 11ac-VHT20 | MCS0              | 40          | 5220           | 18.88                  | ≤ 30.00                         | Pass   |
| 11ac-VHT20 | MCS0              | 48          | 5240           | 18.96                  | ≤ 30.00                         | Pass   |
| 11ac-VHT20 | MCS0              | 149         | 5745           | 16.64                  | ≤ 30.00                         | Pass   |
| 11ac-VHT20 | MCS0              | 157         | 5785           | 16.06                  | ≤ 30.00                         | Pass   |
| 11ac-VHT20 | MCS0              | 165         | 5825           | 15.76                  | ≤ 30.00                         | Pass   |
| 11ac-VHT40 | MCS0              | 38          | 5190           | 10.58                  | ≤ 30.00                         | Pass   |
| 11ac-VHT40 | MCS0              | 46          | 5230           | 18.75                  | ≤ 30.00                         | Pass   |
| 11ac-VHT40 | MCS0              | 151         | 5755           | 16.61                  | ≤ 30.00                         | Pass   |
| 11ac-VHT40 | MCS0              | 159         | 5795           | 15.82                  | ≤ 30.00                         | Pass   |
| 11ac-VHT80 | MCS0              | 42          | 5210           | 9.58                   | ≤ 30.00                         | Pass   |
| 11ac-VHT80 | MCS0              | 155         | 5775           | 14.84                  | ≤ 30.00                         | Pass   |

## **7.5. Power Spectral Density Measurement**

### **7.5.1.Test Limit**

For the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band.

For the band 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

If transmitting antennas of directional gain greater than 6dBi are used, the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

### **7.5.2.Test Procedure Used**

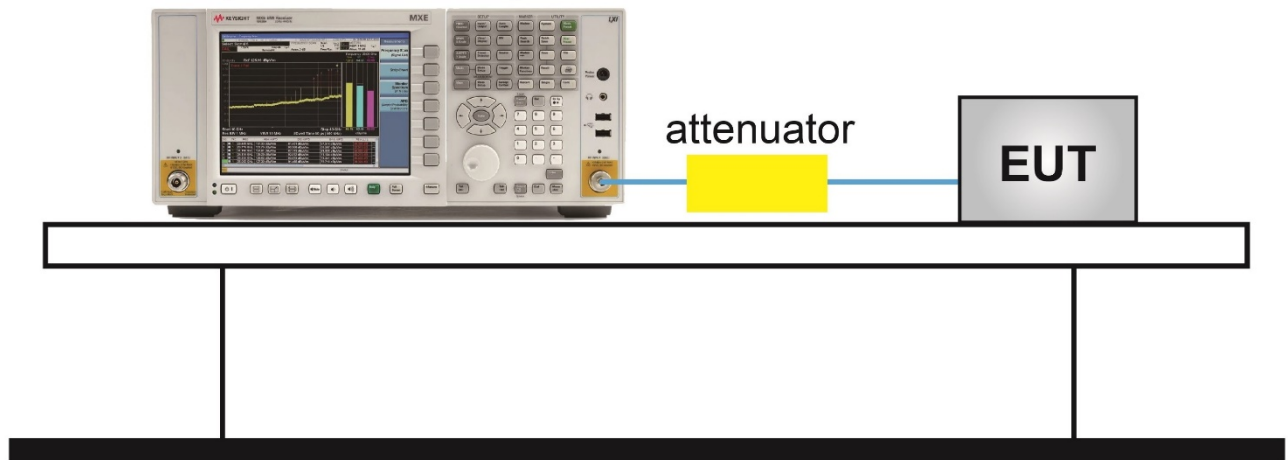
KDB 789033 D02v02r01-Section F

### **7.5.3.Test Setting**

1. Analyzer was set to the center frequency of the UNII channel under investigation
2. Span was set to encompass the entire 26dB EBW of the signal.
3. RBW = 1MHz, if measurement bandwidth of Maximum PSD is specified in 500 kHz,  
RBW = 510KHz
4. VBW  $\geq$  3RBW
5. Number of sweep points  $\geq 2 \times (\text{span} / \text{RBW})$
6. Detector = power averaging (Average)
7. Sweep time = auto
8. Trigger = free run
9. Use the peak search function on the instrument to find the peak of the spectrum and record its value.
10. Add  $10 \cdot \log(1/x)$ , where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission). For example, add  $10 \cdot \log(1/0.25) = 6$  dB if the duty cycle is 25 percent.

#### 7.5.4.Test Setup

### Spectrum Analyzer



### 7.5.5.Test Result

|               |                                                           |                   |                       |
|---------------|-----------------------------------------------------------|-------------------|-----------------------|
| Product       | HAN Access Point                                          | Temperature       | 23 ~ 25°C             |
| Test Engineer | Eric Lin                                                  | Relative Humidity | 40 ~ 56%              |
| Test Site     | SR2                                                       | Test Date         | 2021/09/11~2021/10/12 |
| Test Item     | Power Spectral Density (U-NII -1 / U-NII -2A / U-NII -2C) |                   |                       |
| Test Mode     | CDD Mode                                                  |                   |                       |

| Test Mode  | Data Rate /MCS | Ch. No. | Freq. (MHz) | PSD (dBm/MHz) |       |       |       | Duty Cycle (%) | Total PSD (dBm/MHz) | PSD Limit (dBm/MHz) | Result |
|------------|----------------|---------|-------------|---------------|-------|-------|-------|----------------|---------------------|---------------------|--------|
|            |                |         |             | Ant 0         | Ant 1 | Ant 2 | Ant 3 |                |                     |                     |        |
| 11a        | 6Mbps          | 36      | 5180        | 6.10          | 5.93  | 5.30  | 5.62  | 93.14          | 12.08               | ≤ 12.48             | Pass   |
| 11a        | 6Mbps          | 44      | 5220        | 5.94          | 6.38  | 5.27  | 6.26  | 93.14          | 12.31               | ≤ 12.48             | Pass   |
| 11a        | 6Mbps          | 48      | 5240        | 5.53          | 5.89  | 5.11  | 6.43  | 93.14          | 12.09               | ≤ 12.48             | Pass   |
| 11a        | 6Mbps          | 52      | 5260        | 0.30          | 0.05  | 0.15  | -0.04 | 93.14          | 6.44                | ≤ 6.48              | Pass   |
| 11a        | 6Mbps          | 60      | 5300        | 0.14          | -0.44 | 0.15  | 0.01  | 93.14          | 6.30                | ≤ 6.48              | Pass   |
| 11a        | 6Mbps          | 64      | 5320        | -0.38         | 0.05  | 0.41  | 0.16  | 93.14          | 6.40                | ≤ 6.48              | Pass   |
| 11a        | 6Mbps          | 100     | 5500        | -0.08         | 0.21  | -0.30 | -0.29 | 93.14          | 6.22                | ≤ 6.38              | Pass   |
| 11a        | 6Mbps          | 116     | 5580        | -0.31         | 0.26  | -0.57 | -0.19 | 93.14          | 6.14                | ≤ 6.38              | Pass   |
| 11a        | 6Mbps          | 140     | 5700        | 0.24          | -0.18 | -0.03 | -0.06 | 93.14          | 6.32                | ≤ 6.38              | Pass   |
| 11a        | 6Mbps          | 144     | 5720        | 0.36          | -0.26 | -0.10 | -0.15 | 93.14          | 6.30                | ≤ 6.38              | Pass   |
| 11ac-VHT20 | MCS0           | 36      | 5180        | 6.75          | 6.62  | 5.71  | 5.76  | 95.49          | 12.46               | ≤ 12.48             | Pass   |
| 11ac-VHT20 | MCS0           | 44      | 5220        | 5.86          | 6.01  | 5.67  | 6.13  | 95.49          | 12.14               | ≤ 12.48             | Pass   |
| 11ac-VHT20 | MCS0           | 48      | 5240        | 5.72          | 6.06  | 5.24  | 6.19  | 95.49          | 12.04               | ≤ 12.48             | Pass   |
| 11ac-VHT20 | MCS0           | 52      | 5260        | -0.18         | 0.15  | 0.19  | 0.01  | 95.49          | 6.27                | ≤ 6.48              | Pass   |
| 11ac-VHT20 | MCS0           | 60      | 5300        | 0.13          | -0.36 | 0.35  | -0.15 | 95.49          | 6.22                | ≤ 6.48              | Pass   |
| 11ac-VHT20 | MCS0           | 64      | 5320        | -0.18         | -0.13 | 0.06  | 0.18  | 95.49          | 6.21                | ≤ 6.48              | Pass   |
| 11ac-VHT20 | MCS0           | 100     | 5500        | 0.09          | 0.44  | -0.27 | -0.13 | 95.49          | 6.26                | ≤ 6.38              | Pass   |
| 11ac-VHT20 | MCS0           | 116     | 5580        | -0.05         | -0.13 | -0.17 | -0.35 | 95.49          | 6.05                | ≤ 6.38              | Pass   |
| 11ac-VHT20 | MCS0           | 140     | 5700        | 0.51          | 0.17  | -0.45 | -0.22 | 95.49          | 6.24                | ≤ 6.38              | Pass   |
| 11ac-VHT20 | MCS0           | 144     | 5720        | 0.57          | 0.16  | -0.55 | -0.54 | 95.49          | 6.15                | ≤ 6.38              | Pass   |

| Test Mode     | Data Rate /MCS | Ch. No. | Freq. (MHz) | PSD (dBm/MHz) |       |       |       | Duty Cycle (%) | Total PSD (dBm/MHz) | PSD Limit (dBm/MHz) | Result |
|---------------|----------------|---------|-------------|---------------|-------|-------|-------|----------------|---------------------|---------------------|--------|
|               |                |         |             | Ant 0         | Ant 1 | Ant 2 | Ant 3 |                |                     |                     |        |
| 11ac-VHT40    | MCS0           | 38      | 5190        | 3.40          | 3.87  | 2.88  | 3.31  | 94.23          | 9.66                | ≤ 12.48             | Pass   |
| 11ac-VHT40    | MCS0           | 46      | 5230        | 5.56          | 6.18  | 5.17  | 5.99  | 94.23          | 12.02               | ≤ 12.48             | Pass   |
| 11ac-VHT40    | MCS0           | 54      | 5270        | -0.04         | -0.01 | -0.37 | -0.05 | 94.23          | 6.16                | ≤ 6.48              | Pass   |
| 11ac-VHT40    | MCS0           | 62      | 5310        | -0.51         | 0.04  | -0.43 | 0.04  | 94.23          | 6.07                | ≤ 6.48              | Pass   |
| 11ac-VHT40    | MCS0           | 102     | 5510        | 0.36          | 0.28  | -0.85 | 0.10  | 94.23          | 6.28                | ≤ 6.38              | Pass   |
| 11ac-VHT40    | MCS0           | 110     | 5550        | -0.28         | 0.41  | -0.70 | 0.05  | 94.23          | 6.17                | ≤ 6.38              | Pass   |
| 11ac-VHT40    | MCS0           | 134     | 5670        | -0.12         | 0.01  | 0.04  | -0.93 | 94.23          | 6.05                | ≤ 6.38              | Pass   |
| 11ac-VHT40    | MCS0           | 142     | 5710        | 0.36          | 0.19  | -0.50 | -0.57 | 94.23          | 6.17                | ≤ 6.38              | Pass   |
| 11ac-VHT80    | MCS0           | 42      | 5210        | -1.60         | -1.01 | -1.94 | -1.16 | 95.48          | 4.81                | ≤ 12.48             | Pass   |
| 11ac-VHT80    | MCS0           | 58      | 5290        | -0.86         | 0.14  | -1.22 | -0.33 | 95.48          | 5.68                | ≤ 6.48              | Pass   |
| 11ac-VHT80    | MCS0           | 106     | 5530        | -1.92         | -2.74 | -1.51 | -1.81 | 95.48          | 4.25                | ≤ 6.38              | Pass   |
| 11ac-VHT80    | MCS0           | 122     | 5610        | -0.63         | 0.56  | -0.69 | -0.28 | 95.48          | 5.99                | ≤ 6.38              | Pass   |
| 11ac-VHT80    | MCS0           | 138     | 5690        | -0.07         | 0.09  | -0.60 | -0.58 | 95.48          | 5.94                | ≤ 6.38              | Pass   |
| 11ac-VHT80+80 | MCS0           | 42      | 5210        | -0.76         | -0.54 | --    | --    | 94.99          | 2.59                | ≤ 12.48             | Pass   |
|               |                | 58      | 5290        | --            | --    | -1.00 | -0.43 | 94.99          | 2.53                | ≤ 6.48              | Pass   |
| 11ac-VHT80+80 | MCS0           | 106     | 5530        | -0.40         | -0.10 | --    | --    | 94.99          | 5.67                | ≤ 6.38              | Pass   |
|               |                | 122     | 5610        | --            | --    | -1.33 | -0.58 |                |                     |                     |        |
| 11ax-HE20     | MCS0           | 36      | 5180        | 6.15          | 5.87  | 5.47  | 5.95  | 94.52          | 12.13               | ≤ 12.48             | Pass   |
| 11ax-HE20     | MCS0           | 44      | 5220        | 6.33          | 6.32  | 5.43  | 6.02  | 94.52          | 12.30               | ≤ 12.48             | Pass   |
| 11ax-HE20     | MCS0           | 48      | 5240        | 5.92          | 6.49  | 5.38  | 6.13  | 94.52          | 12.27               | ≤ 12.48             | Pass   |
| 11ax-HE20     | MCS0           | 52      | 5260        | 0.16          | -0.35 | -0.11 | 0.11  | 94.52          | 6.22                | ≤ 6.48              | Pass   |
| 11ax-HE20     | MCS0           | 60      | 5300        | -0.31         | 0.09  | 0.51  | 0.11  | 94.52          | 6.37                | ≤ 6.48              | Pass   |
| 11ax-HE20     | MCS0           | 64      | 5320        | 0.15          | -0.17 | 0.24  | 0.33  | 94.52          | 6.41                | ≤ 6.48              | Pass   |
| 11ax-HE20     | MCS0           | 100     | 5500        | -0.13         | 0.15  | -0.02 | 0.12  | 94.52          | 6.30                | ≤ 6.38              | Pass   |
| 11ax-HE20     | MCS0           | 116     | 5580        | 0.14          | 0.16  | -0.61 | -0.22 | 94.52          | 6.15                | ≤ 6.38              | Pass   |
| 11ax-HE20     | MCS0           | 140     | 5700        | 0.56          | 0.07  | -0.39 | -0.31 | 94.52          | 6.26                | ≤ 6.38              | Pass   |
| 11ax-HE20     | MCS0           | 144     | 5720        | 0.44          | -0.05 | -0.46 | -0.30 | 94.52          | 6.19                | ≤ 6.38              | Pass   |

| Test Mode    | Data Rate /MCS | Ch. No. | Freq. (MHz) | PSD (dBm/MHz) |       |       |       | Duty Cycle (%) | Total PSD (dBm/MHz) | PSD Limit (dBm/MHz) | Result |
|--------------|----------------|---------|-------------|---------------|-------|-------|-------|----------------|---------------------|---------------------|--------|
|              |                |         |             | Ant 0         | Ant 1 | Ant 2 | Ant 3 |                |                     |                     |        |
| 11ax-HE40    | MCS0           | 38      | 5190        | 2.86          | 2.82  | 1.91  | 2.75  | 95.51          | 8.82                | ≤ 12.48             | Pass   |
| 11ax-HE40    | MCS0           | 46      | 5230        | 5.82          | 6.82  | 5.51  | 5.85  | 95.51          | 12.25               | ≤ 12.48             | Pass   |
| 11ax-HE40    | MCS0           | 54      | 5270        | 0.21          | 0.44  | -0.03 | 0.32  | 95.51          | 6.46                | ≤ 6.48              | Pass   |
| 11ax-HE40    | MCS0           | 62      | 5310        | 0.03          | 0.36  | 0.02  | 0.36  | 95.51          | 6.42                | ≤ 6.48              | Pass   |
| 11ax-HE40    | MCS0           | 102     | 5510        | 0.14          | -0.02 | -0.64 | 0.14  | 95.51          | 6.14                | ≤ 6.38              | Pass   |
| 11ax-HE40    | MCS0           | 110     | 5550        | 0.23          | 0.13  | -0.66 | -0.02 | 95.51          | 6.15                | ≤ 6.38              | Pass   |
| 11ax-HE40    | MCS0           | 134     | 5670        | 0.20          | 0.06  | 0.15  | -0.23 | 95.51          | 6.27                | ≤ 6.38              | Pass   |
| 11ax-HE40    | MCS0           | 142     | 5710        | 0.17          | 0.09  | -0.37 | -0.29 | 95.51          | 6.13                | ≤ 6.38              | Pass   |
| 11ax-HE80    | MCS0           | 42      | 5210        | -0.86         | -0.57 | -1.10 | -0.87 | 95.25          | 5.39                | ≤ 12.48             | Pass   |
| 11ax-HE80    | MCS0           | 58      | 5290        | -0.43         | 0.43  | -0.04 | 0.42  | 95.25          | 6.34                | ≤ 6.48              | Pass   |
| 11ax-HE80    | MCS0           | 106     | 5530        | -1.08         | -0.34 | -1.45 | -0.89 | 95.25          | 5.31                | ≤ 6.38              | Pass   |
| 11ax-HE80    | MCS0           | 122     | 5610        | -0.09         | -0.21 | -0.42 | 0.19  | 95.25          | 6.11                | ≤ 6.38              | Pass   |
| 11ax-HE80    | MCS0           | 138     | 5690        | 0.33          | 0.36  | -0.31 | -0.63 | 95.25          | 6.19                | ≤ 6.38              | Pass   |
| 11ax-HE80+80 | MCS0           | 42      | 5210        | -0.97         | -1.19 | --    | --    | 95.25          | 2.14                | ≤ 12.48             | Pass   |
|              |                | 58      | 5290        | --            | --    | -1.82 | -1.46 | 95.25          | 1.58                | ≤ 6.48              | Pass   |
| 11ax-HE80+80 | MCS0           | 106     | 5530        | -0.87         | -0.30 | --    | --    | 95.25          | 5.30                | ≤ 6.38              | Pass   |
|              |                | 122     | 5610        | --            | --    | -1.47 | -1.18 |                |                     |                     |        |

Note 1: When EUT duty cycle ≥ 98%, the total PSD (dBm/MHz) =  $10 \cdot \log \{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)} + 10^{(\text{Ant 3 PSD}/10)}\}$  (dBm/MHz).

When EUT duty cycle < 98%, the total PSD (dBm/MHz) =  $10 \cdot \log \{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)} + 10^{(\text{Ant 3 PSD}/10)}\}$  (dBm/MHz) +  $10 \cdot \log (1/\text{Duty Cycle})$ .

Note 2: For 5150 - 5250MHz Band: PSD Limit (dBm/MHz) = 17 - (10.52 - 6) = 12.48 dBm/MHz.

For 5250 - 5350MHz Band: PSD Limit (dBm/MHz) = 11 - (10.52 - 6) = 6.48 dBm/MHz.

For 5470 - 5725MHz Band: PSD Limit (dBm/MHz) = 11 - (10.62 - 6) = 6.38 dBm/MHz.

|                |                                  |                   |                       |
|----------------|----------------------------------|-------------------|-----------------------|
| Product        | HAN Access Point                 | Temperature       | 24~27°C               |
| Test Engineer  | Eric Lin                         | Relative Humidity | 58~60%                |
| Test Site      | SR2                              | Test Date         | 2021/10/10~2021/10/12 |
| Frequency Band | Power Spectral Density (U-NII-3) |                   |                       |
| Test Mode      | CDD Mode                         |                   |                       |

| Test Mode  | Data Rate/<br>MCS | Ch. No. | Freq.<br>(MHz) | PSD<br>(dBm/510kHz) |       |       |       | Duty Cycle<br>(%) | Total PSD<br>(dBm/510kHz) | Limit<br>(dBm/500kHz) | Result |
|------------|-------------------|---------|----------------|---------------------|-------|-------|-------|-------------------|---------------------------|-----------------------|--------|
|            |                   |         |                | Ant 0               | Ant 1 | Ant 2 | Ant 3 |                   |                           |                       |        |
| 11a        | 6Mbps             | 149     | 5745           | 5.75                | 5.62  | 5.00  | 5.31  | 93.14             | 11.76                     | ≤ 25.48               | Pass   |
| 11a        | 6Mbps             | 157     | 5785           | 5.30                | 4.86  | 4.82  | 4.91  | 93.14             | 11.31                     | ≤ 25.48               | Pass   |
| 11a        | 6Mbps             | 165     | 5825           | 5.21                | 5.03  | 4.33  | 4.56  | 93.14             | 11.13                     | ≤ 25.48               | Pass   |
| 11ac-VHT20 | MCS0              | 149     | 5745           | 5.85                | 5.74  | 5.01  | 5.21  | 95.49             | 11.69                     | ≤ 25.48               | Pass   |
| 11ac-VHT20 | MCS0              | 157     | 5785           | 5.27                | 5.48  | 4.54  | 5.38  | 95.49             | 11.40                     | ≤ 25.48               | Pass   |
| 11ac-VHT20 | MCS0              | 165     | 5825           | 5.17                | 5.32  | 4.31  | 4.63  | 95.49             | 11.10                     | ≤ 25.48               | Pass   |
| 11ac-VHT40 | MCS0              | 151     | 5755           | 2.60                | 2.42  | 1.54  | 1.79  | 94.23             | 8.39                      | ≤ 25.48               | Pass   |
| 11ac-VHT40 | MCS0              | 159     | 5795           | 2.63                | 2.54  | 1.55  | 1.71  | 94.23             | 8.41                      | ≤ 25.48               | Pass   |
| 11ac-VHT80 | MCS0              | 155     | 5775           | -1.52               | -1.51 | -2.19 | -2.29 | 95.48             | 4.36                      | ≤ 25.48               | Pass   |
| 11ax-HE20  | MCS0              | 149     | 5745           | 5.76                | 5.45  | 4.50  | 4.53  | 94.52             | 11.36                     | ≤ 25.48               | Pass   |
| 11ax-HE20  | MCS0              | 157     | 5785           | 4.78                | 4.73  | 3.91  | 4.38  | 94.52             | 10.73                     | ≤ 25.48               | Pass   |
| 11ax-HE20  | MCS0              | 165     | 5825           | 4.83                | 4.92  | 3.95  | 3.89  | 94.52             | 10.69                     | ≤ 25.48               | Pass   |
| 11ax-HE40  | MCS0              | 151     | 5755           | 3.23                | 3.48  | 2.24  | 2.27  | 95.51             | 9.06                      | ≤ 25.48               | Pass   |
| 11ax-HE40  | MCS0              | 159     | 5795           | 2.69                | 2.37  | 2.42  | 2.14  | 95.51             | 8.63                      | ≤ 25.48               | Pass   |
| 11ax-HE80  | MCS0              | 155     | 5775           | -1.81               | -1.34 | -2.47 | -2.43 | 95.25             | 4.25                      | ≤ 25.48               | Pass   |

Note 1: When EUT duty cycle ≥ 98%, the total PSD (dBm/510kHz) =  $10 \cdot \log \{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)} + 10^{(\text{Ant 3 PSD}/10)}\}$  (dBm/510kHz)

When EUT duty cycle < 98%, the total PSD (dBm/510kHz) =  $10 \cdot \log \{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)} + 10^{(\text{Ant 3 PSD}/10)}\}$  (dBm/510kHz) +  $10 \cdot \log (1/\text{Duty Cycle})$ .

Note 2: PSD Limit (dBm/500kHz) = 30 - (10.52 - 6) = 25.48dBm/500kHz.

|               |                                                           |                   |            |
|---------------|-----------------------------------------------------------|-------------------|------------|
| Product       | HAN Access Point                                          | Temperature       | 23 ~ 25°C  |
| Test Engineer | Eric Lin                                                  | Relative Humidity | 40 ~ 56%   |
| Test Site     | SR2                                                       | Test Date         | 2021/10/11 |
| Test Item     | Power Spectral Density (U-NII -1 / U-NII -2A / U-NII -2C) |                   |            |
| Test Mode     | Scan Mode                                                 |                   |            |

| Test Mode  | Data Rate /MCS | Ch. No. | Freq. (MHz) | PSD (dBm/MHz) | Duty Cycle (%) | Total PSD (dBm/ MHz) | PSD Limit (dBm/MHz) | Result |
|------------|----------------|---------|-------------|---------------|----------------|----------------------|---------------------|--------|
| 11a        | 6Mbps          | 36      | 5180        | 5.28          | 96.38          | 5.44                 | ≤ 17.0              | Pass   |
| 11a        | 6Mbps          | 44      | 5220        | 8.11          | 96.38          | 8.27                 | ≤ 17.0              | Pass   |
| 11a        | 6Mbps          | 48      | 5240        | 8.13          | 96.38          | 8.29                 | ≤ 17.0              | Pass   |
| 11ac-VHT20 | MCS0           | 36      | 5180        | 5.27          | 95.80          | 5.45                 | ≤ 17.0              | Pass   |
| 11ac-VHT20 | MCS0           | 44      | 5220        | 7.76          | 95.80          | 7.95                 | ≤ 17.0              | Pass   |
| 11ac-VHT20 | MCS0           | 48      | 5240        | 7.97          | 95.80          | 8.15                 | ≤ 17.0              | Pass   |
| 11ac-VHT40 | MCS0           | 38      | 5190        | -3.36         | 95.75          | -3.17                | ≤ 17.0              | Pass   |
| 11ac-VHT40 | MCS0           | 46      | 5230        | 5.33          | 95.75          | 5.52                 | ≤ 17.0              | Pass   |
| 11ac-VHT80 | MCS0           | 42      | 5210        | -7.71         | 86.48          | -7.08                | ≤ 17.0              | Pass   |

Note 1: When EUT duty cycle < 98%, the total PSD (dBm/MHz) = PSD (dBm/MHz) + 10\*log (1/Duty Cycle).

|                |                                  |                   |                       |
|----------------|----------------------------------|-------------------|-----------------------|
| Product        | HAN Access Point                 | Temperature       | 24~27°C               |
| Test Engineer  | Eric Lin                         | Relative Humidity | 58~60%                |
| Test Site      | SR2                              | Test Date         | 2021/10/11~2021/10/12 |
| Frequency Band | Power Spectral Density (U-NII-3) |                   |                       |
| Test Mode      | Scan Mode                        |                   |                       |

| Test Mode  | Data Rate/<br>MCS | Ch. No. | Freq.<br>(MHz) | PSD<br>(dBm/510kHz) | Duty<br>Cycle<br>(%) | Total PSD<br>(dBm/<br>510kHz) | Limit<br>(dBm/<br>500kHz) | Result |
|------------|-------------------|---------|----------------|---------------------|----------------------|-------------------------------|---------------------------|--------|
| 11a        | 6Mbps             | 149     | 5745           | 3.32                | 96.38                | 3.48                          | ≤ 30.0                    | Pass   |
| 11a        | 6Mbps             | 157     | 5785           | 3.00                | 96.38                | 3.16                          | ≤ 30.0                    | Pass   |
| 11a        | 6Mbps             | 165     | 5825           | 3.09                | 96.38                | 3.25                          | ≤ 30.0                    | Pass   |
| 11ac-VHT20 | MCS0              | 149     | 5745           | 3.04                | 95.80                | 3.23                          | ≤ 30.0                    | Pass   |
| 11ac-VHT20 | MCS0              | 157     | 5785           | 2.47                | 95.80                | 2.66                          | ≤ 30.0                    | Pass   |
| 11ac-VHT20 | MCS0              | 165     | 5825           | 1.93                | 95.80                | 2.11                          | ≤ 30.0                    | Pass   |
| 11ac-VHT40 | MCS0              | 151     | 5755           | 0.04                | 95.75                | 0.22                          | ≤ 30.0                    | Pass   |
| 11ac-VHT40 | MCS0              | 159     | 5795           | -0.62               | 95.75                | -0.43                         | ≤ 30.0                    | Pass   |
| 11ac-VHT80 | MCS0              | 155     | 5775           | -5.20               | 86.48                | -4.57                         | ≤ 30.0                    | Pass   |

Note 1: When EUT duty cycle < 98%, the total PSD (dBm/510kHz) = PSD (dBm/510kHz) + 10\*log (1/Duty Cycle).

## 802.11a Power Spectral Density –CDD Mode Ant 0

Channel 36 (5180MHz)



Channel 44 (5220MHz)



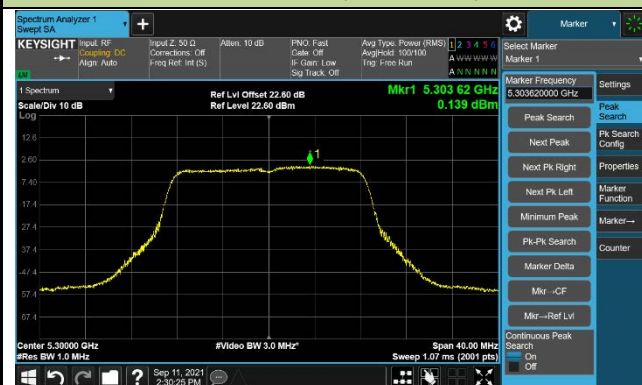
Channel 48 (5240MHz)



Channel 52 (5260MHz)



Channel 60 (5300MHz)



Channel 64 (5320MHz)



## 802.11a Power Spectral Density –CDD Mode Ant 0

Channel 100 (5500MHz)



Channel 116 (5580MHz)



Channel 140 (5700MHz)



Channel 144 (5720MHz)

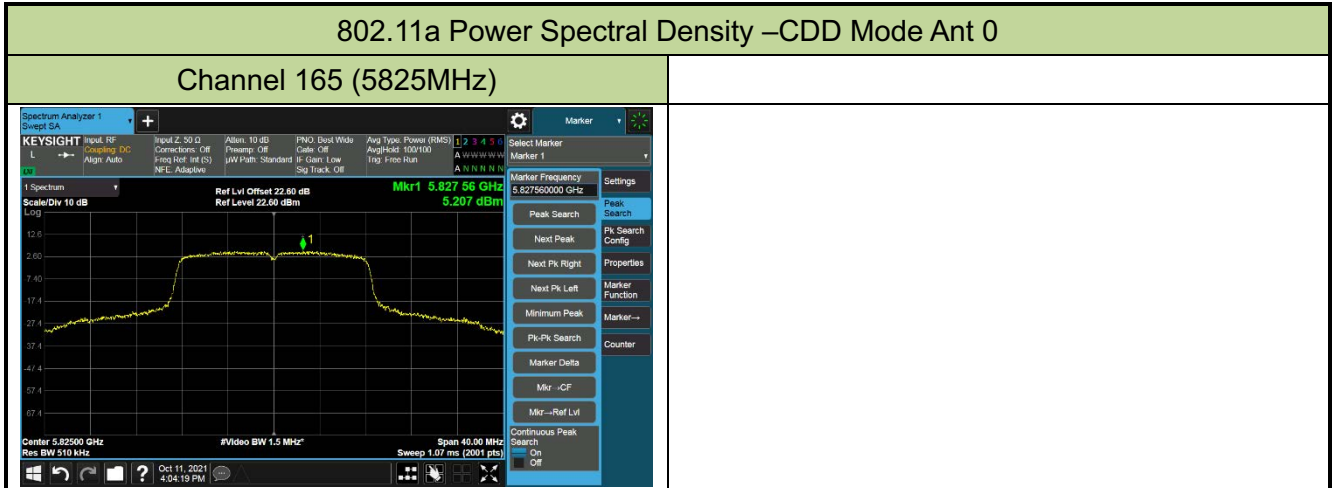


Channel 149 (5745MHz)



Channel 157 (5785MHz)





## 802.11ac-VHT20 Power Spectral Density –CDD Mode Ant 0

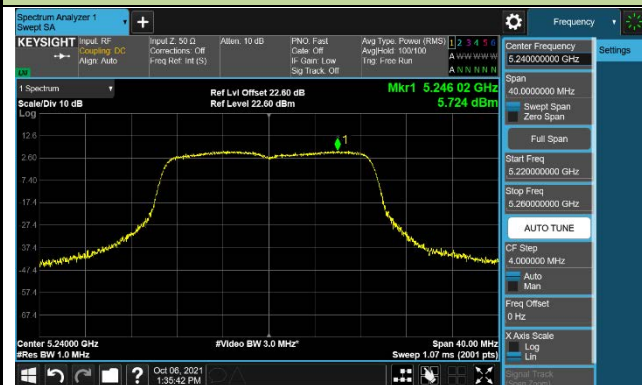
Channel 36 (5180MHz)



Channel 44 (5220MHz)



Channel 48 (5240MHz)



Channel 52 (5260MHz)



Channel 60 (5300MHz)



Channel 64 (5320MHz)

